

REMARKS

Applicants' undersigned attorney thanks the Examiner for her comments. Applicants respectfully request reconsideration of this patent application, particularly in view of the above Amendment and the following remarks. Currently, Claims 1-17 are pending.

Applicants invention is a nonwoven fabric having a mélange appearance (i.e. an alternation of color and/or intensity) imparted by a fiber part and high durability imparted by a matrix binder. The fiber part includes at least one of a mélange appearance fiber and a mixture of at least two fibers with different dyeability characteristics. The matrix binder includes a polyurethane including soft and rigid segments. The soft segments include a mixture of polycarbonate polyols and polyester polyols. The rigid segments include urethane groups and ureic groups wherein the urethane groups are derived by the reaction of isocyanate with ureic polyols and the ureic groups are derived by the reaction of isocyanate with water.

Amendment to the Claims

Currently Claims 1-17 are pending with Claims 12-17 withdrawn. Claims 1-11 have been examined with no claims allowed.

Claim 1 has been amended to recite a nonwoven fabric having a mélange appearance. Support is found page 2, lines 6-13.

Claim 1 has been further amended to recite that the rigid segments comprise ureic groups derived from the reaction between isocyanate groups and water. Support is found on page 6, lines 1-9 and page 9, lines 14-18.

Claim 3 has been amended to clarify that the soft segments comprise at least one polycarbonate polyol and at least one polyester polyol. Support is found on page 9, lines 14-18 and in Example 1.

Claim 5 has been amended to correct a typographical error in the preamble and to provide consistent antecedent basis for the isocyanate groups.

Claim 6 has been amended to clarify that the fibers of the fiber part have a denier of about 0.001 to about 10.

Claim 10 has been amended to recite a fiber having a mélange appearance obtained by injecting one or more colorants into the fiber through the use

of a needle-punching machine fitted with hollow needles. Support is found page 15, lines 5-12.

Claim Rejections - 35 USC §112

The rejection of Claims 1-11 under 35 USC §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, is respectfully traversed.

Claim 1 has been amended to recite a nonwoven fabric having a mélange appearance. The term mélange appearance is defined as material characterized by the alternation of color and/or intensity (page 2, lines 6-13). Claim 1 has been further amended to recite that the hard segments include ureic groups derived from the reaction of isocyanate groups and water. The phrase “the free” has been deleted from the last line of Claim 1.

Claim 3 has been amended to recite that the soft segments comprise at least one polycarbonate polyol and at least one polyester polyol.

Claim 6 has been amended to recite that the fiber have a denier from between approximately 0.001 and approximately 10.

Claim 10 has been amended to clarify that the mélange appearance of a fiber may be achieved by injecting colorant(s) into the fiber through the use of a needle-punching machine fitted with hollow needles.

For at least the reasons presented above, Applicants respectfully submit that amended Claims 1, 3, 6 and 10 particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Because Claims 2, 4, 5, 7-9 and 11 depend from Claim 1 these claims are also definite. Thus, reconsideration and withdrawal of this rejection is respectfully requested.

Claim Rejections - 35 USC §103

A. Bellucci/Higuchi

The rejection of Claims 1-11 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication 2003/0252254 to Bellucci et al. in view of U.S. Patent 4,525,169 to Higuchi et al. is respectfully traversed.

The Bellucci application and the subject application were commonly owned by, or subject to an obligation of assignment to, the same organization, Alcantara S.p.A., at the time the invention in the subject application was made.

Bellucci is therefore prior art only under 35 U.S.C. §102(e). According to 35 U.S.C. §103(c), a reference that is prior art under 35 U.S.C. §102(e) is not to be considered when determining obviousness under U.S.C. §103(a) when the prior art reference and the claimed invention were commonly owned or subject to an obligation of assignment to the same person at the time the invention was made.

For at least the reasons given above, reconsideration and withdrawal of this rejection is respectfully requested.

B. Mizoguchi/Higuchi

The rejection of Claims 1-11 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,798,165 in view of U.S. Patent 4,525,169 to Higuchi et al. is respectfully traversed.

Applicants' invention as recited in Claim 1 requires that the nonwoven fabric having a mélange appearance and high durability include a polyurethane matrix binder which includes rigid segments including urethane groups and ureic groups derived from the reaction between isocyanate groups and water.

Higuchi discloses an artificial grain leather having different color spot groups comprised of ultra fine fibers in which one side of the fibrous substrate has two types of colors differing in hue and/or lightness value and being covered with transparent resin layers (Abstract). The transparent resin layer may include polyurethane (Col. 5, lines 43-49). However, Higuchi is silent as to the composition of the polyurethane resin layer or coating.

Mizoguchi does not overcome the limitations of Higuchi. Mizoguchi discloses a porous leather-like or suede-like product having good durability and flexibility formed by wet coagulating a polyurethane comprising soft segments of repeating units from a polycarbonate, those from a diethylene glycol polyester and those from a tetramethylene glycol-base polyester, and hard segments of an aromatic diisocyanate and ethylene glycol on a nonwoven web (Abstract). More particularly, Mizoguchi teaches away from using isocyanate and water chain extension in combination with polycarbonate and polyester diols because the objects (e.g., good durability) of their invention can only be obtained by chain extension with ethylene glycol or 1,4-butanediol (col. 7, lines 13-18). Thus, Higuchi in combination with Mizoguchi does not disclose or suggest a nonwoven fabric having a mélange


appearance and high durability including a polyurethane binder matrix which includes rigid segments including ureic groups derived from the reaction between isocyanate groups and water.

For at least the reasons given above, Applicants respectfully submit that Higuchi alone, or in combination with Mizoguchi, does not disclose or suggest Applicants' invention as recited in Claim 1. Because Claims 2-11 depend from Claim 1, these claims are also patentable over Higuchi in view of Mizoguchi. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Conclusion

Applicant believes that this case is now in condition for allowance. If the Examiner feels that any issues remain, then Applicant's undersigned attorney would like to discuss the case with the Examiner. The undersigned can be reached at (847) 490-1400.

Respectfully submitted,


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